



Hyperventilation Syndrome *(page 1 of 3)*

What is hyperventilation?

Hyperventilation is an increase in the depth, duration and rate of breathing. This means your lungs are breathing in and out more air than the body is able to deal with. Sometimes this is described as over-breathing.

Types of hyperventilation

There are two types of hyperventilation:

1. Acute hyperventilation

This occurs during exciting or stressful situations such as before an examination or jumping out of the way of a car. You may experience symptoms such as a racing heart, weak knees and breathlessness, which normally disappear once the stressful period is over.

2. Chronic hyperventilation

If your breathing does not return to normal after these stressful events, the symptoms may continue. This tends to occur in people who describe themselves as anxious, or feel they continually have to strive to achieve their goals.

Approximately 6-12% of the population suffer with chronic hyperventilation, but some people are more affected than others.

Are there other causes of hyperventilation?

Hyperventilation may sometimes be a sign of other underlying medical problems.

Some of these conditions are listed below.

Psychological:

- depression
- anxiety

Drugs:

- overdose of aspirin
- alcoholism
- some cardiac and respiratory drugs (please discuss these possible causes with your physiotherapist or doctor)

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The evidence used in the preparation of this leaflet is available on request. Please email: patient.information@salisbury.nhs.uk if you would like a reference list.

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Other causes:

- anaemia
- asthma
- pneumonia
- pulmonary embolus (blood clot in the lung)
- pulmonary oedema (accumulation of fluid in the lung)

Physical:

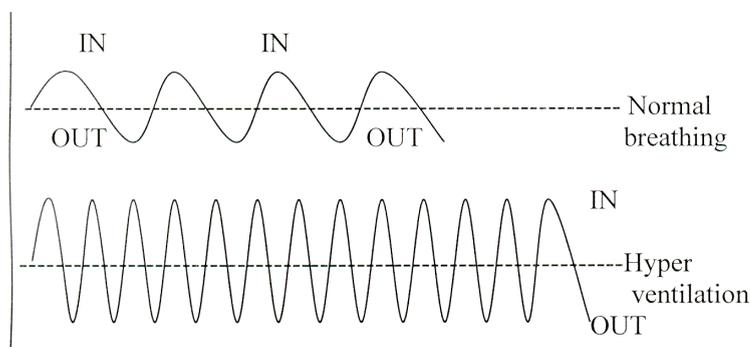
- high altitude
- fever
- pregnancy
- menstrual cycle.

What happens during chronic hyperventilation?

Everyone breathes in air containing oxygen and carbon dioxide. The body uses the oxygen to release energy in the body and carbon dioxide is produced as a result. Consequently, the air that is breathed out has changed to contain less oxygen and more carbon dioxide. The amount of carbon dioxide within the body needs to be finely balanced because it has an important role in stimulating the breathing centre in the brain.

During hyperventilation, breathing becomes faster and/or deeper. This results in more carbon dioxide being exhaled from the lungs and less oxygen being available throughout the body. Over breathing can be useful in an acute situation as it prepares the body for action. A lower level of carbon dioxide triggers an increase in production of hormones such as adrenaline. These hormones help to stimulate the body and increase the heart rate, breathing etc.

However, if the over-breathing becomes more permanent, the brain recognises this lower level of carbon dioxide and accepts it as being normal. Consequently the body is constantly on alert and this may result in a number of symptoms such as tiredness, exhaustion, tingling sensations and numbness.

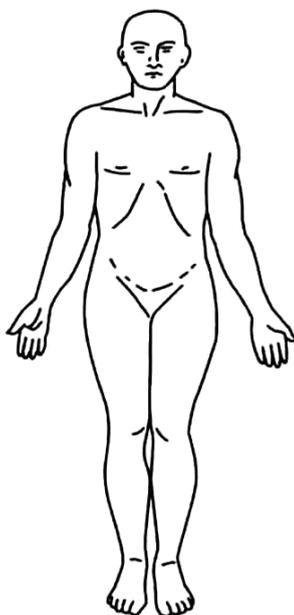


The graph here shows the level of carbon dioxide in the bloodstream of a person breathing normally compared with a person who is hyperventilating. Note the deeper and more rapid breaths of the person who is hyperventilating.

Signs and symptoms of hyperventilation

Sight problems / dislike of bright lights

Headache
Air hunger
Sighing
Cough
Dry throat
Palpitations
Chest pain
Anxiety
Weakness
Unreal feelings



Dizziness / faintness
Nightmares
Yawning
Tight chest
Asthma
Panic attacks
Excess wind
Cramps
Tremors
Dislike of loud noise

Pins and needles in fingers and toes

Everyone will experience different combinations of signs and symptoms.

Further information

For further information please contact a member of the Respiratory Team.